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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CHAWAN, VIJAY B	
ART UNIT	**PAPER NUMBER**
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/630,113	GLEASON ET AL.	
	Examiner	Art Unit	
	Vijay B. Chawan	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-23 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As per the Interim Guidelines regarding 35 U.S.C 101, claims 1-23 define non-statutory processes because they merely manipulate an abstract idea (mathematical algorithm) without a claimed limitation to practical application. Also, it is not clear, what type of data is being received and how. If the acts of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter (Benson, 409 US at 71-72, 175, USPQ at 676). Furthermore, claims define non-statutory processes if they simply manipulate abstract ideas (Warmerdam, 33 F.3d at 1360.31 USPQ2d at 1759). Lastly in evaluating claims in view of 35 U.S.C. 101, the "limited to the technological arts" test is no longer valid (see Annex III of the interim Guidelines).

Claim Objections

3. Claim 4 is objected to because of the following informalities: Claim 4, line 6, not clear as to what the applicant means by "different suspect phonetic unit." Similar instances are found in the recited claim language, and these need to be addressed and appropriate corrections need to be made. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Coorman et al.,(6,665,641).

As per claim 1, Coorman et al., teach a method of filtering phonetic units to be used within a concatenative text-to-speech voice comprising the steps of:

receiving at least one phonetic unit that has been automatically extracted from a speech corpus in order to construct a concatenative text-to-speech voice (Fig.1, item 141);

calculating an abnormality index for said phonetic unit, wherein said abnormality index indicates a likelihood of said phonetic unit being misaligned (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

comparing said abnormality index to a normality threshold (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

if said abnormality index does not exceed said normality threshold, marking said phonetic unit as a verified phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22); and

building said concatenative text-to-speech voice using said verified phonetic units (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 2, Coorman et al., teach the method of claim 1, further comprising the step of, if said abnormality index exceeds said normality threshold, marking said phonetic unit as a suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 3, Coorman et al., teach the method of claim 2, further comprising the step of presenting said suspect phonetic unit within an alignment validation interface comprises a validation means for validating said suspect phonetic unit and a denial means for validating said suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 4, Coorman et al., teach the method of claim 3, wherein at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of providing at least one navigation control within said alignment validation

interface, and, upon a selection of one of said navigation controls, navigating from said suspect phonetic unit to a different suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 5, Coorman et al., teach the method of claim 3, further comprising the steps of providing an audio playback control within said alignment validation interface, and, upon a selection of said audio playback control, audibly presenting said suspect phonetic unit (Col, 9, lines 13 - 56).

As per claim 6, Coorman et al., teach the method of claim 3, further comprising the step of: if said validation means is selected within said alignment validation interface, marking said suspect phonetic unit as a verified phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 7, Coorman et al., teach the method of claim 3, further comprising the steps of: if said denial means is selected within said alignment validation interface, marking said suspect phonetic unit as a rejected phonetic unit, and, excluding said rejected phonetic units from said building of said concatenative text-to-speech voice (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 8, Coorman et al., teach the method of claim 1, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of: presenting a graphical distribution of the abnormality indexes of said plurality of phonetic units within a normality threshold interface, and, adjusting said normality threshold within said normality threshold interface (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 9, Coorman et al., teach the method of claim 1, wherein said calculating step further comprising the steps of: examining said phonetic unit for a plurality of abnormality attributes, assigning an abnormality value for each of said abnormality attribute, and, calculating said abnormally index based at least in part upon said plurality of abnormality values (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 10, Coorman et al., teach the method of claim 9, said calculating step further comprising the steps of: for each abnormality attribute, identifying an abnormality weight and multiplying said abnormality weight and said abnormality value, and, adding results from said multiplying to determine said abnormality index (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 11, Coorman et al., teach the method of claim 9, said assigning step further comprising the steps of: examining said phonetic unit for at least one abnormality attribute characteristic, for each abnormality attribute characteristic, determining at least one abnormality parameter, utilizing said abnormality parameters within an abnormality attribute evaluation function, and, calculating said abnormality index using said abnormality attribute evaluation function (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 12, Coorman et al., teach a system of filtering phonetic units to be used within a concatenative text-to-speech voice comprising the steps of:

means for receiving at least one phonetic unit that has been automatically extracted from a speech corpus in order to construct a concatenative text-to-speech voice (Fig.1, item 141);

means for calculating an abnormality index for said phonetic unit, wherein said abnormality index indicates a likelihood of said phonetic unit being misaligned (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

means for comparing said abnormality index to a normality threshold (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

if said abnormality index does not exceed said normality threshold, means for marking said phonetic unit as a phonetic unit, and, means for building said concatenative text-to-speech voice using said verified phonetic units (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 13, Coorman et al., teach a machine-readable storage having stored thereon, a computer program having a plurality of code-sections, said code sections executable by a machine to perform the steps of:

receiving at least one phonetic unit that has been automatically extracted from a speech corpus in order to construct a concatenative text-to-speech voice (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

calculating an abnormality index for said phonetic unit, wherein said abnormality index indicates a likelihood of said phonetic unit being misaligned (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

comparing said abnormality index to a normality threshold (tables 6 and 7, Col.13, line 33 – Col.16,line 22);

if said abnormality index does not exceed said normality threshold, marking said phonetic unit as a verified phonetic unit, and, building said concatenative text-to-speech voice using said verified phonetic units (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 14, Coorman et al., teach the machine-readable storage of claim 13, further comprising the step of: if said abnormality index exceeds said normality threshold, marking said phonetic unit as a suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 15, Coorman et al., teach the machine-readable storage of claim 14, further comprising the step of presenting said suspect phonetic unit within an alignment validation interface, wherein said alignment validation interface comprises a validation means for validating said suspect phonetic unit and a denial means for invalidating said suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 16, Coorman et al., teach the machine-readable storage of claim 15, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of providing at least one navigation control within said alignment validation interface, and, upon a selection of one of said navigation controls, navigating from said suspect phonetic unit to a different suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 17, Coorman et al., teach the machine-readable storage of claim 15,, further comprising the steps of providing an audio playback control within said alignment validation interface, and, upon a selection of said audio playback control,

audibly presenting said suspect phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 18, Coorman et al., teach the machine-readable storage of claim 15, further comprising the step of: if said validation means is selected within said alignment validation interface, marking said suspect phonetic unit as a verified phonetic unit (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 19, Coorman et al., teach the machine-readable storage of claim 15,, further comprising the steps of: if said denial means is selected within said alignment validation interface, marking said suspect phonetic unit as a rejected phonetic unit, and, excluding said rejected phonetic units from said building of said concatenative text-to-speech voice (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 20, Coorman et al., teach the machine-readable storage of claim 13, wherein said at least one phonetic unit comprises a plurality of phonetic units, said method further comprising the steps of: presenting a graphical distribution of the abnormality indexes of said plurality of phonetic units within a normality threshold interface, and, adjusting said normality threshold within said normality threshold interface (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 21, Coorman et al., teach the machine-readable storage of claim 13, wherein said calculating step further comprising the steps of: examining said phonetic unit for a plurality of abnormality attributes, assigning an abnormality value for each of said abnormality attribute, and, calculating said abnormally index based at least in part

upon said plurality of abnormality values (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 22, Coorman et al., teach the machine-readable storage of claim 21, said calculating step further comprising the steps of: for each abnormality attribute, identifying an abnormality weight and multiplying said abnormality weight and said abnormality value, and, adding results from said multiplying to determine said abnormality index (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

As per claim 23, Coorman et al., teach the machine-readable storage of claim 21, said assigning step further comprising the steps of: examining said phonetic unit for at least one abnormality attribute characteristic, for each abnormality attribute characteristic, determining at least one abnormality parameter, utilizing said abnormality parameters within an abnormality attribute evaluation function, and, calculating said abnormality index using said abnormality attribute evaluation function (tables 6 and 7, Col.13, line 33 – Col.16,line 22).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kibre et al., (6,792,407) teach text selection and recording by feedback and adaptation for development of personalized text-to-speech systems.

Kibre et al., (6,202,049) teach identification of unit overlap regions for concatenative speech synthesis show.

Cope et al., (6,529,866) speech recognition system and associated methods.

van Santen et al., (7,010,488) teach a system and method for compressing concatenative acoustic inventories for speech synthesis.

Bergstrom et al., (5,727,125) teach a method and apparatus for synthesis of speech excitation waveforms.

Goldenthal et al., (5,884,267) teach an automated speech alignment for image synthesis.

Huang et al., (5,937,384) teach a method and system for speech recognition using continuous density Hidden Markov Models.

Ehlig et al., (5,349,687) teach speech recognition system having first and second registers enabling both to concurrently receive identical information in one context and disabling one to retain the information in a next context.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vijay B. Chawan whose telephone number is (571) 272-7601. The examiner can normally be reached on Monday Through Friday 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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vbc
2/19/07

VIJAY CHAWAN
PRIMARY EXAMINER